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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/311,617	05/13/1999	BRENT TOWNSHEND	99.294	1470
20306	7590	03/24/2004		
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP 300 S. WACKER DRIVE 32ND FLOOR CHICAGO, IL 60606			EXAMINER ARMSTRONG, ANGELA A	
			ART UNIT 2654	PAPER NUMBER 24

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/311,617

Applicant(s)

TOWNSHEND, BRENT

Examiner

Angela A. Armstrong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-8 and 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sturner et al. (US Patent No. 5,303,327) in view of Junqua (US Patent No. 6,253,181).

2. As per claims 1, 7, 8, 11-17, Sturner et al. disclose a test system/method comprising;
A first set of task that require a subject to provide one or more spoken responses, (see abstract, lines 2-3);

A speech recognition system to receive the spoken response and provide an estimate, (see col. 3, line 64 to col. 4, line 12, col. 6, line 64);

A scoring device to convert the estimate into a score, (see col. 5, lines 4-21),

A computation device for providing a subject score based on a combination of item scores using a scoring computation model that depends upon an expected item-dependent operating characteristic of the speech recognition system-4 (see abstract, lines 6-13).

Subject scores being based reflecting at least one of linguistic ability and cognitive ability, (see col. 2, line 25 continuing to col. 3, line 3),

Scoring computation reflecting normalized data (see col. 5, line 62 continuing to col. 6, line 15),

Sturner fail to explicitly teach that the subject score accounts for inaccuracies, potential

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recognition errors, or item-dependent operational characteristics of the speech recognition system.

Junqua discloses a speech recognition and teaching apparatus able to rapidly adapt to difficult speech of children and foreign speakers. At col. 3, line 60 continuing to col. 5, line 67, Junqua teaches the speech recognition system uses a confidence measurement system that provides a quantitative measure of how reliable each utterance is. Junqua describes a likelihood ratio score that compares the likelihood score associated with correct recognition with the mean or average of likelihood scores associated with incorrect recognition. Junqua teaches the system provides an increase in the recognizer's chance of having a good performance, without adapting to incorrect recognitions (col.1, lines 18-19).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Sturner to implement a confidence measurement system that provides a quantitative measure of system reliability, as taught by Junqua, for the purpose of increasing the recognizers performance, as also suggested by Junqua.

As per claim 2, Sturner et al. disclose a system wherein the scoring computation is based on Item Response Theory, (see col. 5, lines 36-46).

As per claim 3, Sturner et al. disclose a system wherein the speech recognition system, the scoring device and the computation device comprise software modules running on a general purpose computer, (see Fig. 1).

As per claim 4, Sturner et al. disclose a system wherein the scoring computation model is constructed from a plurality of responses provided by a number of native and non-native speakers, the plurality of responses being prompted by a second set of tasks items, (see col. 5,

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lines 36-39).

As per claim 5, Sturner et al. disclose a system wherein the estimate provided by the speech recognition comprises an estimate of the linguistic content of the spoken response, (see col. 5, lines 48-66).

As per claim 6, Sturner et al. disclose a system wherein at least one task is an item selected from a group consisting of a prompt to read a sentence aloud ..., (see col. 6, lines 16 37).

Response to Arguments

3. Applicant's arguments filed January 2, 2004 have been fully considered but they are not persuasive.

Applicant argues Junqua does not show or suggest providing a subject score that depends on the item dependent operating characteristic of the speech recognition system. The Examiner disagrees and argues Junqua teaches the speech recognition system uses a confidence measurement system that provides a quantitative measure of how reliable each utterance is. Junqua describes a likelihood ratio score that compares the likelihood score associated with correct recognition with the mean or average of likelihood scores associated with incorrect recognition, which effects or compromises the speech recognition system if unwarranted or an incorrect adaptation processing is implemented, since an unwarranted adaptation process alters the recognition models and would yield inaccurate or unreliable recognition results from the recognition system. Thus, determining a likelihood ratio score that compares the likelihood score associated with correct recognition with the mean or average of likelihood scores

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associated with incorrect recognition, which effects the adaptation process (“item-dependent operating characteristic”), as suggested by Junqua, provides adequate support for the claim limitation.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela A. Armstrong whose telephone number is 703-308-6258. The examiner can normally be reached on Monday-Thursday 7:30-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Angela A. Armstrong
Examiner
Art Unit 2654

AAA
March 15, 2004


RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER